

**CONFIDENTIAL**

8 February 1954

MEMORANDUM FOR: THE RECORD

SUBJECT: Project Monitor [ ] on P-115,  
Transistorized Receivers and Transmitters and  
P-101, Communication System, Infra-Red.

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1. Time and Place of Meeting - The meeting was held  
28 January 1954 at the

2. Attendance -

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3. Discussion

a. General Administrative

The question of security clearances was discussed. [ ] stated that the reason for their lack of progress was lack of cleared personnel. At present the majority of those cleared are administrative personnel. The APD representatives strongly emphasized the need to maintain an adequate staff of cleared technical personnel, taking into account the 3-5 month clearance delay and the possibility that personnel may resign from the company during the course of the project. We advised that it was well to clear all the people required on a project at the outset rather than to wait until 3 months before they are to be used. Special emphasis was placed on the P-115 work which is just starting, and security delays should be avoided if at all possible. A review was made by [ ] of personnel to be needed on P-115 and they stated that the respective PSQ's would be mailed as soon as possible.

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The question of vouchers for money spent on the contract to date was brought up. Total expenditures to date are less than \$10,000 and no vouchers have been filed. It was requested that [ ] file a voucher as soon as possible.

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> The matter of reports was mentioned. Reports on both P-101 and P-115 were requested monthly. Three copies of each should be mailed to the [ ] to avoid delays in transit through LO, Contracts Branch.

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The [ ] number were given to [ ] together with instructions for their use. It was stated that we could be reached quickly and directly via these channels and that their use for technical communications was recommended rather than use of the Contract Branch channels.

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As a matter of interest [ ] former plant manager, is now employed by [ ] He has been succeeded by [ ]

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b. P-101 (76-1) Communications System, I.R.

The following definite progress has been made:

- (1) The I.R. dark tunnel is near completion.
- (2) Apparatus is in process of construction to determine the minimum beamwidth for reliable search-find operation of the transceiver.

The following problems have not been resolved:

- (1) The combination of source, modulation, and detector to be used.
- (2) The means of obtaining approximately 50 watts of power in a small, quiet, light package.

In a discussion with [ ] Chief of the I.R. Laboratory, and [ ] who are working on the project, it was determined that [ ] is apparently the driving force behind the work being done. [ ] are [ ] assistants.) [ ] was unfortunately absent. [ ] were able to give some idea of what is planned to be done. The determination of minimum beamwidth is at present the step limiting further work on choice of source and detector combination. It appears that the tungsten source - PbS detector system is favored, however.

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The power source problem is very much up in the air. Since [ ] gave their \$90,000 bid on development of a silenced motor generator, the use of a standard model airplane engine plus generator has been considered. It was hoped that [ ] could effectively silence such a combination. Another possible solution mentioned was the use of a steam generator. Still another solution is the use of Silvercells. The opinion of the undersigned is that [ ] is at a loss regarding power sources since the [ ] bid.

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The lack of technical personnel on P-101 appears to have some ramifications. Both [ ] have only about one year or less experience. [ ] appears to have more, but his ability is unknown. [ ] is fairly obviously not doing any technical work on the project. It was brought out in the discussion on security that three men from the I.R. Lab, cleared at the start of the project in June 1953, had been hired away from [ ] by such places as M.I.T. and the University of Chicago; fairly obviously they must have been men of some experience and ability. In conclusion then, the work done so far, or the lack of it, is due to the fact that only [ ] has been making a major contribution. Not only that, but there is some doubt about the ability remaining in the I.R. Laboratory for us to draw on due to the loss of the three men.

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c. P-115 (76-3) Transistorized Receivers and Transmitters

The end product of main interest in this project was described to [ ], both of whom appear to be very capable. A summary of the points brought out follows:

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(1) The primary need is for a reliable transmitter-receiver of 1000 yards minimum range in city areas. This transmitter-receiver should be capable of being concealed on the person.

(2) Finishing details such as package shape, type of earphone, microphone, concealment, etc. should be postponed until a reliable system has been built in the laboratory.

(3) Frequency to be used should be determined to optimize possibilities to achieve (1) above. Much used frequencies such as the broadcast band should be avoided.

(4) Operating life specifications are to be left open until a compromise can sensibly be made between size of equipment and operating life.

(5) Gain required in audio amplifier should be determined after fundamental transmitter circuit has been evolved. This would allow possible adaptation for audio surveillance as well as communications use.

It was requested that the first report contain a description of the objective of the project as understood by [ ] together with a detailed program for the month following the date of the report. [ ] agreed to have the first report by 1 March.

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**4. Actions**

a. APD will contact [ ] of Commo on the subject of motor generators at [ ] relations to discover the cause of all the trouble which has arisen.

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b. APD will closely follow the security clearance situation at [ ] in order to expedite clearances. In particular the following pending clearances are of interest:

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o.k.-(1)  
(2)  
(3)  
(4)  
(5)  
(6)  
(7)  
(8)  
(9)  
(10)  
(11)

[Redacted area]

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The case of [ ], whose clearance was refused, has been appealed [ ] and should be followed up by APD.

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c. [ ] will submit all PSQ's for persons needed for work on P-101 and P-115.

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d. [ ] will submit monthly reports in triplicate on P-115 and P-101.

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e. [ ] will file vouchers with Logistics covering past expenditures.

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Attachment:

TSS/APD

Distribution:

Original - P-115  
P-101 - 1  
Chrono. - 1  
AST:ata

[Redacted area]

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Additional Comments by [ ]

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1. It is now obvious that [ ] cannot possibly complete P-101, I.R. Communication System before the present termination date of 29 June 1954. With \$310,000 in the task they have spent less than \$10,000 to date. We can therefore anticipate a request for at least a six months extension. Their excuse for the delay will be the length of time it takes to get personnel cleared. This is partially correct but we should not lose sight of the fact that [ ] has demonstrated extremely poor management of the project. They have never planned a comprehensive work program for P-101 nor are they apparently keeping an accurate count of the number of hours put in by project engineers and technicians. There was some talk about work done for us being charged to other contracts. Perhaps a check should be made on their accounting methods.

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2. If we are to get anything out of the two tasks at [ ] we will have to monitor their contract continuously and insist that they live up to the letter of the contract particularly in regard to submission of reports.

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3. The need for frequent visits to [ ] cannot be overstressed. [ ] in explaining their slow start pointed out that though they received their contract in June, no one from APD visited them until October.

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4. As regards P-115 it is too early to say how we will make out on it. The work on this project will be done by a different group headed up by [ ]. These two men impressed me much more than anyone in the IR group.

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